I Claim:

1. A method for producing basalt fibers, comprising the steps of :

preheating basalt;

charging the preheated basalt into a melting furnace;

heating the basalt in said furnace to form a glass mass;

stabilizing the glass mass in a stabilizing section of the melting furnace until it reaches a fiber manufacturing temperature;

introducing the stabilized glass mass into a feeder;

further stabilizing the glass mass in the feeder to obtain a glass mass having the composition

$$\frac{Al_2O_3 + SiO_2}{CaO + MgO} \geq 3 \qquad \frac{FeO}{Fe_2O_3} \geq 0.5$$

$$\frac{2Al_2O_3 + SiO2}{2\,Fe_20_3 + FeO + CaO + MgO + K_2O + Na_2O} > 0.5$$

forming fibers by pulling the further stabilized glass mass from spinnerets which receive glass from the feeder.

2. A method according to claim 1 wherein the preheating step heats the basalt to a temperature of 150 - 900 °C .

3. A method according to claim 1 wherein the temperature of the glass mass from which the fibers are pulled is t^{melt} +(50 - 250 °C), where t^{melt} is the basalt melting temperature.

4. A method according to claim 3 wherein the preheating step heats the basalt to a temperature of 150 - 900 ^{0}C .

5. A method according to claim 1, wherein the glass mass is stabilized in the feeder at a temperature of 1250 - 1450 ^{0} C.

6. A method according to claim 5 wherein the preheating step heats the basalt to a temperature of 150 - 900 ^{0}C .

7. A method according to claim 6 wherein the temperature of the glass mass from which the fibers are pulled is t^{melt} +(50 - 250 °C), where t^{melt} is the basalt melting temperature.

8. Apparatus for producing basaltic fibers, comprising

a basalt weigher;

a melting furnace having a firing space and a stabilizing section;

a heat exchanger connecting the basalt weigher to the firing space for preheating basalt which is charged into the melting furnace;

a feeder which receives molten glass from the melting furnace, said feeder being connected by the stabilizing section to the firing space;

spinnerets which receive molten glass from the feeder; and

mechanisms which pull fibers from the spinnerets.

9. Apparatus according to claim 8 wherein the stabilizing section has a height which is 0.4 - 0.6 of the height of the height of the firing space.

10. Apparatus according to claim 9 wherein the heat exchanger is operable to preheat the basalt to a temperature of 150-900°C.

11. Apparatus according to claim 9 including means for heating the glass mass from which the fibers are pulled to a temperature of t^{melt} +(50 - 250 °C), where t^{melt} is the basalt melting temperature.

12. Apparatus according to claim 9 including means for maintaining glass mass at a stabilizing temperature which is 1250-1450°C.

13. Apparatus according to claim 8 wherein the heat exchanger is operable to preheat the basalt to a temperature of 150-900°C.

14. Apparatus according to claim 13 including means for heating the glass mass from which the fibers are pulled to a temperature of t^{melt} +(50 - 250 °C), where t^{melt} is the basalt melting temperature.

15. Apparatus according to claim 13 including means for maintaining glass mass at a stabilizing temperature which is 1250-1450°C.

16. Apparatus according to claim 8 including means for heating the glass mass from which the fibers are pulled to a temperature of t^{melt} +(50 - 250 °C), where t^{melt} is the basalt melting temperature.

17. Apparatus according to claim 8 including means for maintaining glass mass at a stabilizing temperature which is 1250-1450°C.

18. Apparatus according to claim 17 including means for heating the glass mass from which the fibers are pulled to a temperature of t^{melt} +(50 - 250 °C), where t^{melt} is the basalt melting temperature

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